



Buses that fail to pass the post-delivery tests are subject to nonacceptance. The Procuring Agency shall record details of all Defects on the appropriate test forms and shall notify the Contractor of acceptance, conditional acceptance, or nonacceptance of each bus within five days according to "Acceptance of Bus" (Section 2.3.1.5) after completion of the tests. The Defects detected during these tests shall be repaired according to procedures defined in "Contractual Provisions" (Part 2, "Repairs After Nonacceptance" (Section 2.3.2).

### **3.3.3.1 VISUAL INSPECTION**

The post-delivery inspection is similar to the inspection at the Contractor's plant and shall be conducted with the bus in a static condition. Any visual delivery damage shall be identified and recorded during the visual inspection of each bus.

### **3.3.3.2 BUS OPERATION**

Road tests will be used for total bus operation similar to those conducted at the Contractor's plant. In addition, the Procuring Agency may elect to perform chassis dynamometer tests. Operational deficiencies of each bus shall be identified and recorded.

## **3.4 GUIDE FOR INSPECTION**

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*A list of tests corresponding to "Technical Specifications" (Part 5) will be inserted here.*

## **ATTACHMENT A: NEW BUS MANUFACTURING INSPECTION GUIDELINES**

This attachment was developed by the American Public Transit Association (APTA) Bus Equipment and Maintenance Committee and is intended as a Guideline for use by transit systems (Procuring Agency) and vehicle manufacturers (Contractors).

Two lists are included to reflect the expectations of both the transit system and the vehicle manufacturer.

## Pre-Building Phase

Bus Manufacturers Expectations	Transit System Expectations
<ol style="list-style-type: none"> <li>1. Contract/Transit system inspectors must be given all contract documentation before beginning inspection process.</li> <li>2. Bus manufacturers inspection process should be reviewed at preproduction audit meeting. Inspectors should be present and understand the difference between various manufacturers processes. At least one key customer and manufacturer representative should be present that will follow the entire procurement from start to finish.</li> <li>3. When change orders are required, they need to be made as early in the process as possible. Six months before building starts, whenever possible. If change orders have an impact on delivery schedule, consideration should be given to a delivery schedule revision.</li> <li>4. Transit system inspection forms should be provided to manufacturers prior to the build so that the manufacturer will know the items the customer believes are critical. The inspection forums should be provided to the manufacturer after completion so that the defects to be corrected can be identified.</li> <li>5. If transit system requires sole source components, transit system should obtain assistance for first installation of new components.</li> <li>6. Transit system should have a decision maker at the preproduction audit meeting.</li> <li>7. Transit system should make every effort to inform manufacturers of what they want. Hidden agenda items buried in contract do not promote the cooperative environment desired.</li> <li>8. Agree on what constitutes a line shut down before build begins.</li> </ol>	<ol style="list-style-type: none"> <li>1. Manufacturers should have a formal, approved Quality Assurance (QA) Program, and must adhere to the program! Program must identify senior QA person. QA program must be an integral part of the company's ISO 9000 certification to be effective January 1, 1999. Any changes in approved program must be resubmitted to transit system for approval.</li> <li>2. Preproduction audit meeting with transit system. <ul style="list-style-type: none"> <li>• Representatives from contracts, engineering, quality, and production should be represented</li> <li>• Manufacturers should improve communication between own departments regarding contract requirements</li> <li>• Must have formal sales release to review at the meeting and provide final sales release prior to production</li> <li>• Manufacturers should not use meeting to sell parts</li> <li>• Manufacturers should supply test information and other documents required to meet expectations.</li> </ul> </li> <li>3. Manufacturers should have application and installation approvals from suppliers whenever possible. <ul style="list-style-type: none"> <li>• On installations of new major components, sub-supplier must be present at initial production.</li> </ul> </li> <li>4. Manufacturers should read and understand the <u>specification</u> prior to bid! Specification clarification should be made during the approved equals process. Ask questions at prebid meetings</li> <li>5. Manufacturers service representative should be involved with preproduction audit meeting and initial production and/or at final acceptance.</li> <li>6. Prior to build – bus manufacturer should be able to provide to the transit system a complete Bill of Material for the bus to be built.</li> </ol>

### Process During Building Phase

Bus Manufacturers Expectations	Transit System Expectations
<ol style="list-style-type: none"> <li>1. Need one person as primary inspector from start to finish of process. The primary inspector should be included in the design review process and preproduction meetings. Consistency is very important. First or second bus should stay at manufacturer's location as a quality standard and be delivered last.  Rotation of personnel with different expectations/standards causes difficulties.</li> <li>2. Adequate number of experienced inspectors should be available to prevent production line movement delays.</li> <li>3. Inspectors should be available to support the manufacturing effort Monday through Friday, consistent with the manufacturers production personnel hours.</li> <li>4. Inspections should be conducted in a cooperative, professional manner. Must <u>want</u> to solve problems.</li> <li>5. Only one person should be able to make STOP SHIP calls and <u>reason</u> for the STOP SHIP <u>must</u> be immediately available. STOP SHIP must be in writing.</li> <li>6. Problems identified should be brought to the attention of the manufacturer at the stage when they occur rather than at a future stage or when the vehicle is complete.</li> </ol>	<ol style="list-style-type: none"> <li>1. Resident inspector should have access to a complete set of engineering drawings and documents for the bus being built. Engineering or manufacturing changes must be formally documented and included in documents provided to transit systems.</li> <li>2. Manufacturers should maintain build schedule if possible. Changes in build schedule and requests for overtime and weekend work must be communicated as early as possible.</li> <li>3. Buses should not be presented for final buy-off (inspection) that are not ready or complete.</li> <li>4. Manufacturers should have formal internal/ external communications process and feedback of inspection problems and resolutions. Manufacturers should provide early resolution of problems identified by inspectors. QA procedures must be revised to reflect problem correction.</li> <li>5. Attitude of manufacturers and QA personnel is important. Remember who the customer is. However, there must be mutual respect.</li> <li>6. Transit system is not responsible for redesigning the bus, correcting problems or manufacturer quality. They <u>audit</u> only. Should not need a <u>learning</u> period for manufacturers to determine acceptable quality standards.</li> <li>7. Buses should be identical and interchangeable within an order unless approved by transit system.</li> <li>8. Inspection work should be spread evenly during the workday to the extent possible.</li> </ol>

**Post Building Phase**

<b>Bus Manufacturers Expectations</b>	<b>Transit System Expectations</b>
<ol style="list-style-type: none"><li>1. Increase the rate of the final acceptance process at the transit system after delivery to improve payment process.</li><li>2. On property final acceptance inspection should be primarily for shipping damage and defects that occur during shipment. Complete vehicle inspection with criteria different from that used at the plant should not be done.</li></ol>	<ol style="list-style-type: none"><li>1. Defects noted at property final inspection should be repaired in a timely and acceptable manner.</li></ol>